CSc 74010 Fall 2011, Homework 7

1. Consider the umbrella world example from the lecture. The notes explain the computation of the filtered probability of rain on days 1 and 2 given the observation on an umbrella on days 1 and 2.

   Extend the calculation to day 3. Calculate the filtered probability of rain on day 3:

   (a) If an umbrella is observed on day 3.
   (b) If an umbrella is not observed on day 3

   Comment on your answers.

2. Following on from the previous question, predict the probability of rain on day 4 given that an umbrella was observed on day 3.

   Then predict the probability of rain on days 3 through 10, and plot your results. (The prediction is easy to program into a spreadsheet).